

ENVIRONMENTAL MANAGEMENT ADVISORY BOARD
Team Reports

November 21, 2003

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Team Reports

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ENVIRONMENTAL MANAGEMENT ADVISORY BOARD

Team Reports

EXECUTIVE SUMMARY

The Environmental Management Advisory Board (EMAB) was asked by the Assistant Secretary to examine four issues, listed in the following order of priority:

1. Program Metrics
2. End-State/Exit Strategy/Long-term Stewardship
3. Contracting Policies
4. Analysis of 2006/Near Term Site Closure Strategies

To address these issues, the EMAB divided into teams organized around each issue. Each team reviewed internal and external sources, received briefings, and participated in discussions with key EM officials. This draft report of the Board's activities contains the findings and recommendations of three EMAB Teams: Program Metrics, Contracts, and End-States. The EMAB is awaiting the release of results from the National FOCUS (Finishing Our Cleanup Using Small Sites) EM Corporate Project Team before it begins its review of near-term site closure strategies.

This report is being submitted for review, discussion and possible adoption by the full EMAB at its November 21, 2003 meeting in Washington, DC.

This report provides an initial assessment of contracting practices, performance measures, and end-states based on information available to the EMAB in the March-July 2003 timeframe. The findings of each team are as follows:

Summary of Observations and Recommendations for Improving EM Metrics:

- 1) The new EM corporate performance measures are an improvement over previous efforts to measure program management performance.
- 2) Implementation of an earned value management system to ensure that cost, schedule and technical aspects of the contracts are truly integrated is a major step forward, and a key component of program and project management.
- 3) It would be useful to document risk reduction in a more definitive manner. Possible metrics could include reduction in risks due to improved health and safety procedures, reduction of a site's footprint, and reduction in financial and performance risks due to greater project definition.
- 4) Training EM personnel in the management, tracking, and monitoring of the new performance metrics will be essential to ensure the accuracy and usefulness of the EM database.

Summary of Observations and Recommendations for Improving EM Contracting Practices:

- 5) EM should consider gathering information on contracting and fee incentive models from firms who design and operate global environmental remediation projects and evaluate the different approaches they use in terms of their potential applicability to EM program mission requirements.
- 6) EM should first determine whether it is the actual DOE contract bidding process or DOE contract liability requirements that limit new, large contracting firms from entering the EM cleanup market.
- 7) When developing contractual mandates for contractors, it is recommended that EM limit its procedural mandates and its supervisory role to allow contractors to take on responsibility for performing the work and absorbing any risks (as stipulated in the contract).
- 8) Offering an expanded range of contract vehicles to vendors that more closely matches individual risk to reward for specific task segments and different project tasks could provide more flexibility to potential vendors in making bid/no bid decisions. In addition, the potential exists to reduce an overall project's cost by reducing allowances for uncertainty. Under a procurement process in the private sector, contractors are often allowed to define project scope and ask for permission to submit segmented (phase) proposals, which can lead to lower overall project costs. EM's role in this approach would be to set outcome, schedule, and performance goals. In this regard, EM should consider using performance-based contracting more extensively throughout its program. In this way, EM will encourage the contracting community to propose more innovative, effective, and efficient approaches to waste reduction and accelerated cleanup.
- 9) One very expensive component that bears heavily on a potential contractor's bid/no bid decision is project-bonding costs. EM usually requires that the entire job be bonded. It is recommended that EM review its bonding requirements with the objective of breaking out those job elements where there is enough risk to warrant bonding and only require bonding for those portions. This could result in substantial savings to a potential contractor.
- 10) EM's overhead costs for security and safeguard operations may be deterring contractors from meeting or exceeding performance goals. Clearly differentiating between allowable and unallowable costs and focusing on strategies that limit EM's overhead costs to only those required to perform the task in question could prevent a contractor from being held responsible for paying charges that are not necessary for the EM task being performed. This will reduce the contractor's bid and save DOE money in the process.

- 11) The evolving goals of EM's cleanup sites should be more tightly correlated with the performance indices contained in the Gold Chart and disseminated throughout the program, either through a top-down approach (goals would be established by the Assistant Secretary and incorporated into site cleanup contracts) or through a bottom-up approach (sites could modify contracts with new tasks to accelerate closure, which would be translated into programmatic goals by the Assistant Secretary).
- 12) EM's current contract incentive program is designed only to reward the contractor firm. It should consider including specific contract incentives for performance that, when awarded, would also flow-down through the contracting firm to reward and motivate valuable employees. This may attract a higher quality cadre of contractor personnel to work on EM projects.
- 13) To attract the finest in the contracting field, EM should consider investing in human capital improvements for both Federal and private sector employees. Specifically, the implementation of clearly defined career path models may allow the EM program to successfully compete for top-level leaders.
- 14) Many large contracting firms are reluctant to subcontract tasks to small businesses because of risks stemming from higher overhead costs and performance uncertainty. EM may be able to encourage larger firms to compete for its projects by continuing a small business mentor/protégé program to address the uncertainties by providing incentives for large firms to contract out to small firms. The Department's small business outreach strategy proposes this type of approach.
- 15) EM should designate an additional executive-level support team committed to improving the Source Evaluation Board (SEB) processes, so that any lessons-learned can be dispersed throughout EM in an expedited fashion.

Summary of Observations and Recommendations for End-States:

- 16) DOE has done a good job of interacting with interested parties, especially regulators, during the development of the Risk Based End States Policy and Guidance Documents and the Implementation Plan, while keeping to a rigorous schedule.
- 17) DOE must obtain adequate and meaningful input from regulators, local governments, and stakeholders to ensure each site's Risk Based End-State Vision is both accurate and credible.
- 18) It is critical that the regulator be actively involved in the assessment of the variance between the End-States Vision and current regulatory drivers.
- 19) It is important for the process of risk assessment to be based on realistic and appropriate, yet conservative assumptions.

- 20) Local Government should have the opportunity to “to be at the table” throughout the end states process, because they will have ongoing responsibility to protect the public from harm after DOE has completed its cleanup.
- 21) When determining whether to pursue a variance to a federal facilities agreement (FFA), record of decision (ROD) or other regulatory documents, DOE should conduct a thorough evaluation of many factors, as stated in the Implementation Strategy.
- 22) Despite extensive outreach, there is still significant skepticism and a lack of trust among external parties about DOE’s intentions.

PART 1: PROGRAM METRICS TEAM ACTIVITIES AND FINDINGS

Background

In October 2002, the Assistant Secretary for Environmental Management (EM-1) established a new set of corporate performance measures for the EM program. One of the findings of the Top-to-Bottom Review of the EM program (February 2002) was “... that the EM’s cleanup strategies were not totally based on comprehensive, coherent, technically based risk prioritization.” As a result of the Top-to-Bottom Review, EM is transitioning from a cleanup program focused on risk management and containment to one focused on accelerated risk reduction and cleanup. The new corporate performance measures are quantitative and are intended to focus on the accomplishment of risk-reducing actions that lead to site closure and project completion. Each measure is tracked in the context of monthly, quarterly, annual, and the total measure (life cycle) necessary to bring each site, and the EM program as a whole, to closure.

The Team review included the new EM Gold Chart measures and related documents, including a description and documentation on the Configuration Control Board (CCB) process. The Team also reviewed comments and recommendations by the Department of Energy, Office of Inspector General (DOE/IG) in their review of EM’s FY 2001 corporate performance measures (June 2002), and the Office of Management and Budget (OMB) Program Assessment Rating Tool (PART) review of the EM program for FY 2004.

The following issues were raised in the DOE/IG Audit Report concerning EM’s FY 2001 corporate performance measures:

- EM’s performance measures covered only a fraction of its cleanup projects and overall budget (i.e., the performance measures covered only 76 projects, or 26 percent of the total, which represented \$2 billion, or 32 percent, of the EM budget request).
- EM’s reported performance results indicated it was generally successful in meeting its program goals despite slippage in its overall cleanup schedule and significant cost growth.
- While EM (has recently) focused on delivering risk reduction as a priority, it does not currently measure or report on risk reduction.

The DOE/IG Audit Report recommended that the Assistant Secretary 1) supplement existing corporate performance measures and provide information on overall cost and schedule performance, and 2) capture changes in risk across EM’s site cleanup activities. The Team learned that the new FY 2004 corporate performance measures now being implemented by EM management address one of the IG Audit Report’s principal findings in that they cover over 80 percent of EM’s projects. Further, EM management appears committed to developing new cost and schedule performance measures as well. Risk

reduction measurement and the need for cost and schedule measures will be discussed later in this Report.

In addition, the Metrics Team reviewed the results from the Office of Management and Budget (OMB) Program Assessment Rating Tool (PART) review of the EM program for FY 2004. The PART assessment found that the EM program is generally effective in planning and managing cleanup activities, however, the program has significant difficulty in completing its work on time and within budget. The Team did not conduct an independent assessment of the PART review.

Findings

The following are the findings and recommendations of the Metrics Team based upon a preliminary review of the EM FY 2004 corporate performance measures. The comments are made in the context of the concerns raised by the reviewers cited above and the Team's review of EM's new accelerated risk reduction program.

- ***The new EM corporate performance measures are an improvement to previous program management strategy*** - EMAB believes that the new EM performance measures will be an improvement to the management and oversight of the EM mission. EM should be encouraged that this effort, as complex as it may seem, will give DOE, its contractors, and stakeholders better tools to plan, track, steer and course-correct as required to provide higher program value to the taxpayer. In addition, the Board is happy to see a new Configuration Control Board (CCB) process being implemented by the Program. This process should be helpful in defining the elements of the program, insuring accountability, and improving overall program performance.
- ***Efficiency Considerations*** - The Gold Chart measures, for the most part, should achieve indices and efficiency ratings on how cleanup is progressing. In some cases, however, the waste volumes may indicate compliance and growth while in actuality, progress is not necessarily being achieved. This could be due to factors such as poor site characterization, unknowns or contractor "gaming" of volumes, and lack of packaging/disposal efficiencies. The "gaming of the system" could result from improper quality control and when and if an audit is not completed. An example of gaming would be placing half as much transuranic waste in a drum for shipments ending in the final quarter of a year to reach the performance measure of number of drums shipped on the baseline of the current earned value statistics. The statistics would show that the targeted volume was met, however, in reality, due to inefficient packaging and lack of an audit, the actual progress of materials moved was less than scheduled for that period. As the new program evolves, there may be an opportunity to maximize the efficiencies based on lessons learned from site to site.
- ***Risk Reduction Measurement*** - Another concern is the need to document "risk reduction" in a more definitive manner. EM maintains that by eliminating the hazard it is reducing longer-term risk (i.e., there will be a risk benefit if the risk is eliminated

earlier). However, by accelerating closure schedules EM may also be concurrently increasing short-term risk (contractors will cut costs, potential for increased worker exposure, etc.). It would be useful to measure the potential components of this short-term risk so it can be effectively managed and measured against long-term potential risk reduction benefits.

- ***Cost & Schedule Performance Measures*** - The DOE/IG and the OMB have both commented, in prior reviews of EM's corporate performance measures, that the lack of cost and schedule measures makes it difficult for the program to demonstrate success. In the EM reply to the June 2002 DOE/IG Audit Report, Assistant Secretary Roberson stated that "earned value/cost and schedule will be available once resource loaded baselines are in place at each site." The Team applauds the Assistant Secretary for her plans to implement an earned value management system (a key component of program and project management) to ensure that cost, schedule and technical aspects of the contract are truly integrated.

In discussions with EM staff, the Team learned that earned value cost and schedule data were previously reported for 44 EM projects in the DOE "Project Assessment and Reporting System (PARS)," the corporate project management system. These 44 projects represented approximately 25 percent of EM's scope, or lifecycle costs. The Team understands that EM is increasing the number of projects in PARS to reflect over 80 percent of the EM scope, or lifecycle cost. When completed, the Team agrees it should establish a more reliable means to measure and analyze progress against baseline plans, to report performance, recognize trends, and forecast to completion while providing signals when things require course correction.

- ***Training*** - Training of EM personnel in the management, monitoring and tracking requirements mandated by the program redirection will be essential to achieve accuracy and the usefulness of the new program database. Formatting of reports so that all sites are reporting in a similar manner will be important. Reporting the rollup of project management activity may require modification of the current EM reporting structure.

PART 2: CONTRACTS TEAM ACTIVITIES AND FINDINGS

Background

At the November 2002 EMAB meeting, Assistant Secretary Roberson asked the EMAB to evaluate the findings of the Contract Management Review Board against the best management practices employed by industry. Overall, the Team believes the evolving goals of EM's cleanup sites should be tightly correlated with the performance indices contained in the Gold Chart and disseminated throughout the program, either through a top-down approach (goals would be established by the Assistant Secretary and incorporated into site cleanup contracts) or through a bottom-up approach (sites could modify contracts with new tasks to accelerate closure, which would be translated into programmatic goals by the Assistant Secretary). The Team was asked to consider and

provide recommendations on the following questions raised at the November EMAB Meeting and in subsequent discussions with other EM staff:

- **Does the EM Program provide sufficient incentives to its contractors to realize desired outcomes? If not, what should the incentives be?**

It is the Team's findings that the contract incentives currently offered by the EM Program are insufficient to fully attract the personnel and expertise required to effectively accelerate cleanup schedules at DOE sites characterized by high uncertainty and risks because current incentives are not commensurate with the incentives offered in the private business sectors for similar types of work. Historically, EM has relied upon incremental changes to its contracting procedures instituted on a trial-and-error basis when determining contractor incentives and it is the Team's finding that this approach is too conservative to be successful. For example, the Department's recent approach of using a standard-cost plus fee contract structure with 2-12% project profit margins (compared to 20-30% profit margins on some high-risk projects within the private sector) may not be a radical enough change to motivate contractors to aggressively pursue project cost reductions, develop best practices, and manage their efforts to accelerate closure dates, and reduce waste.

It is recommended that EM consider gathering information from firms that design and operate global environmental remediation projects and evaluate the different contracting and fee incentive models they use. EM may also benefit from examining through discussions with contractors, the evaluation process that private contractors go through in making a bid/no-bid decision on a DOE contract to better understand what potential contractors view as the negative factors in various stages of the bidding process that could be alleviated by implementation of the right contract incentives. To be most effective, these discussions should be conducted one-on-one with contractors and scheduled when a request for proposal announcement is not on the street. If done in a group setting, DOE will not learn as much because a company's bid decision process is proprietary.

In addition, EM should review factors that contribute to the cost of bidding such as cost-cap insurance and pollution liability insurance requirements and consider ways of reducing or eliminating these disincentives. By way of example, in June 2003, the U.S. Army Corps of Engineers (USACE) Omaha District executed an Indefinite Delivery/Indefinite Quantity (ID/IQ) Fixed Price Remediation Insured (FPRI) Environmental Remediation Services Contract. The contract had a basic performance period of three years, and one option period of two years with a program ceiling of \$200 million. Work under this contract is similar to EM's, in that it includes achieving regulatory closure through environmental remediation, construction and engineering services. The task orders will be performed for a fixed price to the government, with insurance in place to protect the contractor against cost overruns and other risks. However under the terms of the offered contract, the insurance required by the contractor will be 100% reimbursable by the government. The Department of Defense has stated

that it intends to increase its use of this type of contracting vehicle for much of its upcoming environmental service work.

▪ **Do contractors have adequate freedom under the contracts to meet (or exceed) goals?**

Due to differences in cleanup site conditions, it is recommended that EM consider offering an expanded range of contract vehicles designed to suit different project tasks similar to an approach used by the private sector. Under such a procurement process, contractors are often allowed to define project scope and ask for permission to submit segmented (phase) proposals, which can lead to lower overall project costs. This structure allows contractors the freedom to first determine tasks within a project that lend themselves to specific contract vehicles, and then to propose different contract mechanisms required for different aspects of a given job.

For example, if this approach were to be applied for a given EM cleanup project, EM would propose a fixed price contract for low-risk tasks and a cost-plus-incentive fee for high-risk tasks. EM's role in this approach would be to set outcome, schedule, and performance goals. By bundling project tasks built upon different contract mechanisms, EM may realize lower overall project costs because risk differentiators will be keyed only to high-risk areas rather than to the entire project.

EM's overhead costs for security and safeguard operations may also deter contractors from meeting or exceeding performance goals. EM should clearly differentiate between allowable and unallowable costs and focus on strategies that break out EM's actual overhead costs and prevent the contractor from being held responsible for paying such charges that are not necessary for the EM task to be performed.

The following three Federal contract models employed outside of DOE may serve as flexible vehicle models for EM projects:

- a) IDIQ (Indefinite Delivery/Indefinite Quantity) contracts are broadly scoped and grant the contractor authority to market and/or compete for tasks. The final contract is awarded by the government with potential price ceilings but no guaranteed tasks or dollars.
- b) The CTRIC (Cooperative Threat Reduction Integrating Contract) model is based upon a government defined scope and schedule that invites proposals of ten pages or less, to speed turnaround time. The CTRIC prime contracts are competed and awarded without a definitive set of tasks; after award of the prime contracts, the CTRIC sponsor determines tasks to compete with one or more CTRIC prime contractor holders. The sponsor then selects teams for contract negotiations, where it determines whether competing contractor teams can demonstrate ability to conform to project concept. The final selection is made using a "best value" determination.
- c) When developing a project concept, DTRA (Defense Threat Reduction Agency) uses a rigid template that includes operations concepts, key personnel, and cost considerations. After competing, contractors propose innovative solutions and the government specifies top-level requirements with gate constraints.

In addition to the aforementioned contracting models, EM should consider using performance-based service contracts extensively throughout its program. Simply stated, performance-based contracting is a contracting methodology in which a party pays for results rather than effort (such as milestones) or process (such as prescribing technology). This approach has existed for many years, but it has not been widely adopted in the Federal Government, despite the encouragement of OMB's Office of Federal Procurement Policy (reference Policy Letter 91-2, Service Contracting). The Federal Acquisition Regulation (FAR) incorporated Policy Letter 91-2 in 1997, requiring agencies to the maximum extent practicable, to use performance-based contracting. The FAR explains performance-based contracting as follows:

- Describe the requirements in terms of results required rather than the methods of performing the work;
- Use measurable performance standards (i.e. terms of quality timeliness, quantity, etc.) and quality assurance surveillance plans;
- Specify procedures for reductions of fee or for reductions to the price of a fixed-price contract when services are not performed or do not meet contract requirements; and
- Include performance incentives where appropriate.

In essence, performance-based contracting allows the contracting community to propose the most innovative, effective, efficient and economical approach to the end goals, rather than prescribing exactly how to go about the work.

Although performance-based contracting will not fit every need (and is in fact not appropriate for scopes like architect-engineer services and utilities), it is the judgment of the team that such approach could be used more often to accelerate waste cleanup and site closure throughout EM.

EM is cautioned though that relying solely on implementation of the EM performance measure initiative may not enhance project execution by contractors. The specific means and methods of project execution employed by the site contractors must remain at the site level in accordance with contract agreements. EM should therefore rely on performance measures to serve as indicators of earned value and depend on contractors to meet the responsibilities and work commitments specified in their contract vehicles.

- **Does the EM Program attract the best available talent given its contracting approach?**

Based on a limited review, it does not appear that the EM program is currently attracting the best available talent in contracting firms due to an intimidating procurement process, use of inflexible contract vehicles, rate salary caps, and other factors.

As a preliminary step, in developing a strategy to attract additional qualified contracting firms, it is recommended that EM first determine whether it is the actual DOE contract bidding process or DOE contract liability requirements that limit new, large contracting firms from entering the EM cleanup market.

Incentivizing Individuals as well as Companies

EM has two challenges: Attracting the best companies and attracting the best and brightest talent within those companies to work on EM projects. EM's current contract performance incentives strategy is aimed at providing incentives at the company level. It is recommended that EM also consider including specific contract incentives for performance that, when awarded, will flow-down through the contracting firm to reward and motivate valuable employees. This could give EM an advantage when competing for top talent against large private firms. Another criticism heard from industry is that DOE projects are focused more on process than progress and this characteristic serves as a major disincentive to accomplishment-oriented individuals.

Unlike commercial jobs, Federal contracts usually have labor rate categories with salary caps that make it difficult to attract the best and the brightest talent. Their hourly rates are above what the government allows so when such a person charges to a contract, his or her employer either loses money or has to accept a substantially reduced return on investment because the individual's labor rate multiplier is significantly reduced. When faced with the choice of assigning a senior executive to a government job with a capped labor rate vs. assigning that same executive to a commercial job where his or her fully loaded (and often higher multiplier) rate can be charged in its entirety, the company will almost always choose the latter project if all other factors are the same. For the employees themselves, there are practical considerations as well because bonuses and other incentives are pegged to a job's profit.

One possible strategy for EM to consider attracting the finest in the field would be to invest in human capital improvements for both Federal and private sector employees. One possible model to follow is the career path program implemented by the National Nuclear Security Administration in the Department's Office of Defense Programs. Other Federal agencies, such as the Homeland Security Department have also developed, or have under development, career path models that have allowed them to successfully compete for top-level leaders.

- **Is there value in using benchmarking practices from the private sector to improve the way the EM Program interacts/negotiates/documents with contractors?**

The EM Program could greatly benefit from implementing benchmarking practices from the private sector to guide its procurement process. For example, EM could gain insights on how to interact with contractors through the utilization of a number of industry veterans (without conflicts of interest) in a peer review capacity of sorts. This technique, which is commonly used throughout the private-sector, could be used to tap persons with individual expertise that could evaluate EM proposed general practices before the beginning of each major site procurement process, interact with the Source Evaluation Boards, and offer analysis of major decisions made during the procurement process.

When developing contractual mandates for contractors, it is recommended that EM limit its procedural mandates and its supervisory role to allow contractors to take on

responsibility for performing the work and absorbing any risks (as stipulated in the contract).

- **Provide a “sanity” check on how industry views EM’s projects and suggest ways for EM to improve its ability to relate to the contracting community.**

Many private sector contracting firms have given up on competing for EM projects for a variety of reasons, including perceived excessive requirements, bonding issues, long-term budget uncertainties, and small business requirements.

Funding Uncertainty

EM cleanup projects are unique within the industry, because tasks can be extraordinarily complex and require the expertise and specialized skills of well-established large firms working for higher profits in the private sector. Additionally, unlike other Federal agencies operating on 2-year budget cycles, the Department (specifically EM) operates on a one-year budget cycle. This creates higher risks for contractors because of uncertainty of continued funding and the fact that there are often first year start-up costs associated with government contracts that need to be averaged out over a multi-year period to meet revenue targets and make bidding the contract worthwhile.

Excessive Bonding Costs

One very expensive component that weighs heavily on a potential contractor’s bid/no bid decision is project-bonding costs. This cost can represent 5%-10% of a project’s total cost to a contractor. It is recommended that EM review its bonding requirements with the objective of breaking out those job elements where there is enough risk to warrant bonding and only require bonding for those portions. This could result in substantial savings to a potential contractor and to the Government. Note that bonding rates (e.g. lower cost bond rates) typically favor the larger contractors.

Another approach to resolving EM’s bonding issues may be to consider adopting bonding practices currently in practice outside of EM. The environmental contractor industry, through initiatives within the US Army Corp of Engineers, US Air Force Center for Environmental Excellence, and private-sector power utilities and mining owner operators, has recently considered cost cap with warranty contract methodologies. The major impetus for this new approach is based upon security realities after September 11, 2001, and shrinking capacities in the bond market. EM could review such practices for applicability to site closure project bonding practices. The current indemnification requirements for EM’s work may also discourage contractors from bidding on EM projects.

Small Business Subcontracting Requirements

It was the team’s findings that some large contracting firms have shied away from EM projects because of the costs and performance risks associated with the program’s

requirement to sub-contract with small businesses. EM may be able to encourage larger firms to compete for its projects by continuing the small business mentor/protégé program (such as its small business outreach strategy) that addresses the uncertainties cited above by providing incentives for large firms to contract out to small firms.

- **Determine the key attributes of the Source Evaluation Board (SEB) process. What SEB activities/decisions drive bid and proposal expense, and in what ways could EM improve its SEB processes?**

The Source Evaluation Board process (SEB) is capable of having a program-wide impact by transforming the Request for Proposal (RFP) process at multiple sites, through the sharing of information. Although EM currently has a corporate team focused on getting more performance out of performance-based contracts, it is recommended that EM designate an additional executive-level support team committed to improving the SEB processes, so that any lessons-learned can be dispersed throughout EM in an expedited fashion. While the role of cross-fertilizing other SEB's/RFP's in EM may be useful, it is doubtful EM could do this effectively for multiple sites without dedicating more resources. This comment does not imply that the effort is ineffective, but rather the Program will not be able to do what it does well in multiple venues quickly enough without support.

PART 3: END-STATES TEAM ACTIVITIES AND FINDINGS

Background

The Environmental Management (EM) "Top-to-Bottom" report (February 2002), concluded that the need for a technically and scientifically sound cleanup strategy has resulted in waste management and disposition decisions that are costly, and not proportional to the risk posed to human health and the environment. Subsequently, the Assistant Secretary established ten specific projects to address the issues identified in the "Top to Bottom" Report. One of the projects addressed risk-based end states at the project sites. The goal of the Risk Based End-States project has been "... to change the current approach from one that is based on compliance with hundreds or thousands of individual and independent requirements and actions, to one that is based on risk based end states, and a clearly defined and coordinated path forward."

Earlier this year, the Environmental Management Advisory Board (EMAB) was asked by the Assistant Secretary of Environmental Management to examine, several key issues for the EM Program, one of which focused on End-State/Exit Strategy and Long-term Stewardship. In response, EMAB developed an End States Project Team (EMAB Team) to review the EM Risk Based End State assumptions upon which conclusions were drawn. As a foundation for this Project, EM in December 2002 released a Risk Based End States Draft Policy and Guidance to the DOE field offices and national intergovernmental groups for comment. The EMAB Team held several conference calls with EM representatives working on the Project and provided informal comments and suggestions.

In July 2003, the Team was asked by EM to study the risk based end-states corporate strategy now known as the Implementation Plan, and focus on variances/misalignments and incentives. Some areas of concern identified by the EMAB Team included:

- The importance of community and local government involvement;
- The importance for DOE to establish trust with the community, local governments and regulators;
- How to appropriately use incentives as tools to move risk based end states forward;
- The need to establish a means of handling situations where it is not possible to obtain regulatory agreement; and
- The process used in evaluating end-states assumptions and the process used in making a decision on whether a change should be sought.

The EMAB Team submitted individual comments to EM on July 25, 2003. Several of those comments were addressed in EM's Risk Based End-States Implementation Plan.

Findings

The EMAB Team findings are based on discussions held with various EM officials, stakeholders, and officials from affected states on the risk based end-states project between February and July 2003. In addition, the EMAB Team reviewed several EM documents: Risk Based End-States Policy and Guidance Documents; the Site Self Assessment Report; the Variance Report; and the Implementation Plan.

The EMAB Team agrees that achieving an end-state that is risk based is an important consideration in protecting public health and the environment, fulfilling DOE's legal and regulatory obligations, and achieving prudent fiscal management. However, the EMAB Team believes that there are a number of issues that need to be considered in order for DOE's evaluation to be credible and for future decisions to be implemented. The team offers the following findings:

- DOE has done a good job of interacting with interested parties, especially regulators, during the development of the Risk Based End States Policy and Guidance Documents, including the Implementation Plan. Dave Geiser should be commended for creating opportunities for input and dialogue and making himself available to members of the Environmental Management Advisory Board and others while keeping to a rigorous schedule.
- DOE must obtain adequate and meaningful input from regulators as well as local governments and stakeholders to ensure that each site's Risk Based End State Vision is both accurate and credible. DOE must strive to achieve community acceptance.
- It is especially critical that the regulators be actively involved in the assessment of how the Risk Based End States Vision varies from the existing regulatory drivers and decisions (Variance Report).

- It is important that the process of risk assessment be based on realistic and appropriate, yet conservative assumptions. Consideration should be given to future consequences that will affect Long Term Stewardship. Consideration should also be given to establishing independent teams to evaluate conflicting risk information and assessments.
- Local Governments should have the opportunity to “be at the table” throughout the risk based end-states process, because they will have ongoing responsibility to protect the public from harm after DOE has completed its cleanup.
- When determining whether to pursue a variance to a FFA, ROD or other regulatory document, DOE should conduct a thorough evaluation of many factors, as stated in the Implementation Strategy, ranging from the persuasiveness of the justification for a variance, the status of the current cleanup effort, the impact on cleanup schedule and cost, the change in protectiveness and the history of past cleanup decisions.
- Despite extensive outreach, there is still significant skepticism and a lack of trust among external parties about DOE’s intentions. Because of this, DOE should work interactively with these external parties throughout this process to improve the receptiveness of the regulators and the community. DOE should also consider broadening the discussion to include enhancements to other aspects of DOE activities or decisions (Future missions, LTS commitments, NRDA responsibilities, site redevelopment initiatives, etc). Investment in an independent assessment of the remedy or plan change may help to address local government and community concerns. In addition, DOE could consider diverting a portion of any cost savings to other community needs or ongoing efforts at the site.

Appendix 1

Corporate Performance Measures - EM Program Totals^a

	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	Complete through FY 2004	Life-cycle ^b
Number of Plutonium Metal or Oxide Containers Packaged for Long-Term Storage	1,022	2,836	955	5,275	5,482
Number of Enriched Uranium Containers Packaged for Long-Term Storage	0	293	1,310	3,251	9,178
Amount of Plutonium or Uranium Residues Packaged for Disposition (kg bulk)	17,814	934	254	107,706	107,782
Amount of Depleted and Other Uranium Packaged for Disposition (MT)	0	1,815	0	4,915	742,149
Volume of Liquid Waste in Inventory Eliminated (Thousands of Gallons)	0	700	1,300	2,000	88,000
Number of Liquid Waste Tanks Closed	0	1	9	12	241
Number of High-Level Waste Containers Packaged for Final Disposition	173	130	250	1,992	21,305
Amount of Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	511	857	633	2,129	2,420
Volume of Transuranic Waste Shipped for Disposal at WIPP (m3)	5,122	4,135	12,170	24,025	134,435
Volume of Low-Level and Mixed Low-Level Waste Disposed (m3)	105,808	78,149	90,690	502,994	1,258,091
Number of Material Access Areas Eliminated	0	0	1	7	14
Number of Nuclear Facility Completions	1	2	5	24	523
Number of Radioactive Facility Completions	19	10	37	171	804
Number of Industrial Facility Completions	101	43	98	650	2,421
Number of Geographic Sites Eliminated ^c	1	2	0	77	114
Number of Remediation Completions (# of Release Sites)	122	197	180	5,428	10,082

^a This chart provides a consistent set of performance measures for the total EM program. The project-level justification provides a brief life cycle scope description and performance measures (in the context of life cycle quantity) and key accomplishments/planned milestones.

^b Life cycle estimates for release sites, facilities, and high-level waste containers include pre-1997 actuals. Quantities for all other measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begins in 1998.

^c The change in life cycle reflects the addition of the Moab/Atlas site.

Appendix 2

MATERIALS REVIEWED AND BRIEFINGS RECEIVED BY THE EMAB TEAMS

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- U.S. DOD, Environmental Quality Budget, FY 2002.
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- U.S. DOE/IG-0561, Audit Report – Environmental Management Performance Measures, June 2002.
- DOE/EM Long-Term Stewardship Case Study Report Final Draft, June 2001.
- DOE/EM Project 7: A Cleanup; Program Driven by Risk Based End-States Briefing, Office of Long-Term Stewardship, David W. Geiser, Project Manager, March 2003.
- DOE/EM Corporate Project 7: A Cleanup Program Driven by Risk Based End-States Policy and Guidance Documents, Office of Long Term Stewardship, prepared by Corporate Project 7 Team, January 2003.
- DOE/EM Corporate Project 7: A Cleanup Program Driven by Risk Based End-States Assessment Report Office of Long Term Stewardship, prepared by Corporate Project 7 Team, April 2003.
- DOE/EM Comment Response Summary for Risk Based End-States, prepared by the Risk Based End-States Corporate Project Team, April 10, 2003.
- DOE/EM Critical Decision 0-1 (Approval of System Requirements and Alternatives) for EM Corporate Project; "A Cleanup Program Driven by Risk Based End-States Project", July 2003.
- U.S. DOE/EM Data Chart: “Corporate Performance Measures at the Complex Level, EM Program – New Structure” February 4, 2003.
- DOE/EM Policy 455.1: Use of Risk-Based End States, Presented to the Assistant Secretary for Environmental Management by the Corporate Project 7 Team, August 2003.
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- U.S. DOE/EM, Getting More Performance from Performance-Based Contracting Corporate Project Team, “New Business Models for EM Projects,” March 2003.

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- U.S. DOE/EM Office of Management, Budget, and Evaluation/CFO, “Monthly Project Status Report,” April 2003.
- U.S. DOE/EM Press Release PR-03-128, subject: “Department of Energy’s Office of Environmental Management to host first Small Business Contracting workshop in Nashville, Tennessee July 15-16”.
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- U.S. DOE/EM, A Review of the Environmental Management Program by the Top-to-Bottom Review Team, February 2, 2002.
- U.S. DOE/EM Standing Operating Policies and Procedures (SOPP), dated June 26, 2002, subject: “Acquisition Management: Contract Planning, Management, and Administration”.
- U.S. DOE/EM Standing Operating Policies and Procedures (SOPP), dated December 17, 2002, subject: “Resource Management: Configuration Management Change Control Process for the Environmental Management Program”.
- Letter dated May 7, 2003, addressed to Small Business Administration Administrator Barreto, from U.S. Senator Olympia Snowe, subject: “Small business opportunities to compete for Federal contracts”.
- Memorandum dated September 23, 2002, addressed to the Director, EM Office of Management, Budget and Evaluation, from the Assistant Secretary for Environmental Management, subject: “Office of Management and Budget Program Assessment Rating Tool”.
- Memorandum, addressed to All Departmental Elements and Major DOE Contractors, from the Secretary of Energy Bill Richardson, subject: “Maximizing Small Business Utilization”.
- Memorandum dated September 23, 2002, addressed to All Departmental Elements, from the Secretary of Energy Spencer Abraham, subject: “Policy Statement on Supporting Small Businesses in Implementing EM Missions”.
- Memorandum dated December 16, 2002, addressed to Distribution, from the Assistant Secretary for Environmental Management, subject: “New Performance Measures,” with Attachment: “Corporate Performance Measures Definitions”.

- Memorandum dated December 19, 2002, addressed to Distribution, from the Assistant Secretary for Environmental Management, subject: “Configuration Control Board”.
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